

Application No. 10/010,7090
Reply to Office Action of July 28, 2005

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Amendments to the claims

Please amend the claims as follows.

1. (previously amended) A protein having the sequence of SEQUENCE I.D. No. 1 wherein the amino acid residues at one or more of positions 5, 11, 17, 19, 22, 30 and 41 are lysine, and the remainder of the residues at those positions are wild-type.
2. (previously amended) A protein according to claim 1, wherein one or more of the amino acid residues at positions 5, 11, 17, 19, 22 and 41 are lysine.
3. (previously amended) A protein according to claim 2, wherein all of the amino acid residues at positions 5, 11, 17, 19, 22 and 41 are lysine.
4. (previously amended) A nucleotide sequence which codes for the protein according to claim 1.
5. (previously amended) An RNA sequence that encodes the protein of claim 1.
6. (previously amended) A DNA sequence that encodes the protein of claim 1.
7. (original) An expression cassette containing the DNA sequence of claim 6 operably linked to plant regulatory sequences which cause the expression of the DNA sequence in plant cells.
8. (currently amended) A bacterial transformation vector comprising the expression cassette according to claim 7, operably linked to bacterial expression regulatory sequences which cause replication of the expression cassette in bacterial cells.
9. (previously amended) Bacterial cells containing as foreign plasmid at least one copy of the bacterial transformation vector according to claim 8.
10. (previously presented) Transformed plant cells containing at least one copy of the expression cassette of claim 7.
11. (previously amended) The transformed cells according to claim 10, further characterized in being cells of a monocotyledonous species.
12. (previously amended) The transformed cells according to claim 11, further characterized in being maize, sorghum, wheat or rice cells.

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13. (previously amended) The transformed cells according to claim 10, further characterized in being cells of a dicotyledonous species.
14. (previously amended) The transformed cells according to claim 13, further characterized in being soybean, alfalfa, rapeseed, sunflower, tobacco or tomato cells.
15. (previously amended) The transformed cells of claim 11 wherein the cells are maize cells.
16. (original) A transformed plant comprising transformed cells according to claim 10.
17. (previously amended) A method for killing and inhibiting plant pathogenic microorganisms which are susceptible to α -Hordothionin, wherein the method comprises comprising introducing into the environment of the pathogenic microorganisms an antimicrobial amount of the protein according to claim 1.
18. (previously amended) A method for killing and inhibiting plant pathogens selected from the group consisting of: *Fusarium graminearum*, *Fusarium moniliforme*, *Diplodia maydis*, *Colletotrichum graminicola*, *verticillium alboatrum*, *Phytophthora megaspermae f.sp. glycinea*, *Macrophomina phaseolina*, *Diaporthe phaseolorum caulivora*, *Sclerotinia sclerotiorum*, *Sclerotinia trifoliorum*, and *Aspergillus flavus*, wherein the method comprises introducing into the environment of the pathogenic microorganisms an antimicrobial amount of the protein according to claim 1.
19. (previously amended) A method according to claim 17, wherein the environment of the pathogen is the tissues of a living plant.
20. (currently amended) A method for enhancing the lysine content of a plant cell or seed, wherein the method comprises: a) transforming a plant cell by insertion of the expression cassette of claim 76; and b) ~~the step of causing such that the protein according to claim 1 to be~~ is expressed in the cell or seed.
21. (currently amended) A method for enhancing the lysine content of a plant, wherein the method comprises: a) transforming a plant cell by insertion of the expression cassette of claim 76; and b) ~~the step of causing such that the α -protein according to claim 1 to be~~ is expressed in tissues of the plant.